



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,609	12/20/2005	Takuzo Sano	OGW-0409	6526

23353 7590 02/16/2007  
RADER FISHMAN & GRAUER PLLC  
LION BUILDING  
1233 20TH STREET N.W., SUITE 501  
WASHINGTON, DC 20036

EXAMINER
----------

TOLAN, EDWARD THOMAS

ART UNIT	PAPER NUMBER
----------	--------------

3725

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/16/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/561,609

Applicant(s)

SANO ET AL.

Examiner

Edward Tolan

Art Unit

3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 12-15, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nemoto et al. (JP 63-16816) in view of Mukai (JP 60-3922). Nemoto discloses a forming device (14, 15, 33) having a rotating frame (14, 15) and a forming blade (33) movable in axial (y) and radial (x) directions. A tubular blank material (P) is held by clamps (15a, 15b, 15c, 14a, 14b, 14c) and the forming blade (33) presses a side of a peripheral wall of the blank in order to form a tubular formed body. The forming blade cross section is an arc. The position and angle of the forming blade is controlled by a servo mechanism. Nemoto does not disclose that one of the clamps is movable axially. Mukai teaches movable hydraulic clamping means (8) which move axially when a forming blade (6) presses material against mandrels (2, 3). The clamping means are biased by piston/cylinder (9, 10). The mandrels have a wavy die shape that corresponds to a wall structure (7) of the finished material. The forming blade is reciprocated along the mandrel die structure to form a tubular body. It would have been obvious to one skilled in the art at the time of invention to provide Nemoto with at least one movable clamp means as taught by Mukai in order to control a wall thickness of the finished product.

Regarding claims 2 and 4, the end part of the material that is clamped by the clamping means remains unworked by the forming blade and necessarily defines either and inner or outer diameter of the tubular body depending upon whether the forming blade contacts an inner or outer wall of the body.

Regarding claim 12, it is inherent that steel tubular bodies are processed by the forming means of Nemoto and Mukai, known steels have a breaking stress greater than 600MPa.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nemoto in view of Mukai and further in view of Hermanson (7,124,609). Nemoto in view of Mukai does not disclose further processing by inner and outer rollers. Hermanson teaches rolling blades (32) for forming an outer wall (fig. 3) or an inner wall (fig. 5) portion of a tubular body (10). Further processing is accomplished by roller pairs (202,210) or (222,232). It would have been obvious to one skilled in the art at the time of invention to process the tubular body of Nemoto in view of Mukai with finishing roller pairs as taught by Hermanson in order to form mating surfaces or connection points.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nemoto in view of Mukai and further in view of Wickwire et al. (2,826,804). Nemoto in view of Mukai does not disclose that the clamp moving means is a spring. Wickwire teaches a spring (37) for biasing an edge (25) of a workpiece. It would have been obvious to one skilled in the art at the time of invention to substitute the spring of Wickwire for the hydraulic clamp moving means of Nemoto in view of Mukai in order to move the clamping means without a pressure source.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication should be directed to Ed Tolan whose telephone number is 571-272-4525. FAX communications should be sent to 571-273-8300.

ED TOLAN  
PRIMARY EXAMINER  
